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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/873,309	06/05/2001	Erik Dahlman	040001-050	5727

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EXAMINER	
DEAN, RAYMOND S	
ART UNIT	**PAPER NUMBER**
2684	

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/873,309	DAHLMAN ET AL.	
	Examiner	Art Unit	
	Raymond S Dean	2684	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 March 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 - 20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 - 20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 July 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1 – 13 and 15 – 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Willenegger (US 2002/0009061) in view of Baum et al. (6,385,462).

Regarding Claim 1, Willenegger teaches a method of transmitting information in a radio communication system comprising at least one transmitter and at least one receiver, the method comprising the steps of: transmitting first information in a first channel from the at least one transmitter to the at least one receiver (Sections 0034 - 0037), and transmitting second information in a second channel from the at least one transmitter to the at least one receiver and setting the power used for transmitting in the second channel to give a secure communication of the second information (Sections 0034 – 0037, 0046, 0047 lines 3 – 9).

Willenegger does not teach using in the transmitting a modulation and/or coding scheme and adapting the modulation and/or coding scheme to give a secure communication of the first information and wherein in the step of transmitting the first

information, the choice of the modulation and/or coding scheme is controlled by the level of the power at each instant set for transmitting in the second channel.

Baum teaches using in the transmitting a modulation and/or coding scheme and adapting the modulation and/or coding scheme to give a secure communication of first information (Column 3 lines 34 – 56, Column 4 lines 22 – 25) and wherein in the step of transmitting the first information, the choice of the modulation and/or coding scheme is controlled by the level of the power at each instant set for transmitting in a channel (Column 4 lines 19 – 25, the planned links comprise channels).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the MCR method taught by Baum on the PDSCH of Willenegger for the purpose of providing an adaptive power allocation, which achieves high system capacity and system coverage as taught by Baum.

Regarding Claim 2, Willenegger in view of Baum teaches all of the claimed limitations recited in Claim 1. Willenegger further teaches wherein the second channel is transmitted from the same transmitter as the first channel (Section 0047 lines 3 – 5).

Regarding Claim 3, Willenegger in view of Baum teaches all of the claimed limitations recited in Claim 1. Willenegger further teaches wherein the second channel is transmitted from one of a plurality of transmitter, comprising the transmitter that transmits the first channel (Section 0047 lines 3 – 5).

Regarding Claim 4, Willenegger in view of Baum teaches all of the claimed limitations recited in Claim 1. Willenegger further teaches wherein the first physical channel that is shared between several users with each user having a unique second

channel and the user of the second channel being currently served by the first channel (Sections 0034 – 0036). Baum further teaches wherein the modulation and coding scheme used by a channel is determined by the instantaneous transmitted power of the channel (Column 4 lines 19 – 25).

Regarding Claim 5, Willenegger in view of Baum teaches all of the claimed limitations recited in Claim 1. Willenegger further teaches wherein the transmitter is a base station and the receiver is a mobile station (Sections 0035 – 0036, 0047 lines 3 – 5).

Regarding Claim 6, Willenegger in view of Baum teaches all of the claimed limitations recited in Claim 1. Willenegger further teaches wherein the first channel is a shared downlink channel and the second channel is a dedicated physical channel (Sections 0035 – 0036).

Regarding Claim 7, Willenegger in view of Baum teaches all of the claimed limitations recited in Claim 6. Willenegger further teaches wherein the power used on the downlink shared channel when transmitting to a specific receiver is controlled by the power control commands transmitted by the receiver in the reverse link (Sections 0046, 0047 lines 3 – 9). Baum further teaches a modulation and/or coding scheme (Column 4 lines 19 – 25).

Regarding Claim 8, Willenegger in view of Baum teaches all of the claimed limitations recited in Claim 7. Willenegger further teaches wherein the power control commands are transmitted in combination with other information (Section 0037).

Regarding Claim 9, Willenegger in view of Baum teaches all of the claimed limitations recited in Claim 6. Willenegger further teaches a dedicated physical channel and a downlink-shared channel (Sections 0035 – 0036). Baum further teaches wherein the power is mapped into a suitable modulation and coding scheme (Column 4 lines 19 – 25).

Regarding Claim 10, Willenegger in view of Baum teaches all of the claimed limitations recited in Claim 9. Baum further teaches wherein a varying modulation and coding scheme is used on a channel (Column 4 lines 19 – 25).

Regarding Claim 11, Willenegger in view of Baum teaches all of the claimed limitations recited in Claim 9. Baum further teaches wherein the mapping is static (Column 4 lines 19 – 25, there will be times when the signal quality will stay the same which means that the power level will not change and thus the MCR will not change, the mapping will therefore be static).

Regarding Claim 12, Willenegger in view of Baum teaches all of the claimed limitations recited in Claim 9. Baum further teaches wherein the mapping is dynamic (Column 4 lines 19 – 25, there will be times when the signal quality will change the which means that the power level will change and thus the MCR will change, the mapping will therefore be dynamic).

Regarding Claim 13, Willenegger in view of Baum teaches all of the claimed limitations recited in Claim 11. Baum further teaches wherein a predefined table is used for mapping the power level to the modulation and coding scheme (Column 4 lines 22 -

25, a plurality of MCRs will be selected depending on the power level thus there will be a table for mapping the power level to the modulation and coding scheme).

Regarding Claim 15, Willenegger in view of Baum teaches all of the claimed limitations recited in Claim 12. Willenegger further teaches wherein at least two base stations are transmitting at the same time to the same mobile station, wherein the power of the DPCH is multiplied with a constant k, k >= 1 (Section 0049 lines 1 – 6, if the transmit power from all of the base stations is the same the total power of the DPCH will be equal to said transmit power multiplied by a constant, said constant being the number of base stations in the active set), both channels DPCH and DSCH transmitting from the same base station (Section 0047 lines 3 – 5). Baum further teaches a constant being used for determining the modulation and coding scheme of a channel (Column 3 lines 37 – 45).

Regarding Claim 16, Willenegger teaches a method of modifying the transmission parameters in a radio communication system comprising at least one transmitter, at least one receiver (Sections 0034 - 0037), a first channel for transmitting first information from the at least one transmitter to the at least one receiver (Sections 0034 - 0037), and a second channel for transmitting second information from the at least one transmitter to the at least one receiver (Sections 0034 - 0037), the method comprising the steps of setting the power used for transmitting in the second channel (0046, 0047 lines 3 – 9).

Willenegger does not teach adapting a modulation and/or coding scheme used in transmitting in the first channel, wherein in the step of adapting, the choice of the

modulation and/or coding scheme is controlled by the level of the power at each instant set for transmitting in the second channel.

Baum teaches adapting a modulation and/or coding scheme used in transmitting in a channel (Column 3 lines 34 – 56, Column 4 lines 22 – 25), wherein in the step of adapting, the choice of the modulation and/or coding scheme is controlled by the level of the power at each instant set for transmitting in the channel (Column 4 lines 19 – 25, the planned links comprise channels).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the MCR method taught by Baum on the PDSCH of Willenegger for the purpose of providing an adaptive power allocation, which achieves high system capacity and system coverage as taught by Baum.

Regarding Claim 17, Willenegger in view of Baum teaches all of the claimed limitations recited in Claim 16. Willenegger further teaches wherein at least two transmitters are transmitting at the same time (Section 0049 lines 1 – 6), wherein the power of the second channel is multiplied with a constant k (Section 0049 lines 1 – 6, if the transmit power from all of the base stations is the same the total power of the DPCH will be equal to said transmit power multiplied by a constant, said constant being the number of base stations in the active set).

Regarding Claim 18, Willenegger teaches a radio communication system comprising at least one transmitter, at least one receiver (Sections 0034 - 0037), a first channel for transmitting first information from the at least one transmitter to the at least one receiver (Sections 0034 - 0037), and a second channel for transmitting second

information from the at least one transmitter to the at least one receiver (Sections 0034 - 0037), the system comprising means for setting the power used for transmitting in the second channel (0046, 0047 lines 3 – 9).

Willenegger does not teach means for adapting a modulation and/or coding scheme used in transmitting in the first channel, comprising means for controlling the choice of the modulation and/or coding scheme by means of the level of the power at each instant set for transmitting in the second channel.

Baum teaches means for adapting a modulation and/or coding scheme used in transmitting in a channel (Column 3 lines 34 – 56, Column 4 lines 22 – 25), comprising means for controlling the choice of the modulation and/or coding scheme by means of the level of the power at each instant set for transmitting in the channel (Column 4 lines 19 – 25, the planned links comprise channels).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the MCR method taught by Baum on the PDSCH of Willenegger for the purpose of providing an adaptive power allocation, which achieves high system capacity and system coverage as taught by Baum.

Regarding Claim 19, Willenegger in view of Baum teaches all of the claimed limitations recited in Claim 1. Baum further teaches a computer program product directly loadable into the internal memory of a digital computer comprising software portions when said product is run on a computer (Figure 1, a typical base station such as 102 comprises processors that have memory for the storage of software that enables said base station to conduct it's functions).

Regarding Claim 20, Willenegger in view of Baum teaches all of the claimed limitations recited in Claim 16. Baum further teaches a computer program product directly loadable into the internal memory of a digital computer comprising software portions when said product is run on a computer (Figure 1, a typical base station such as 102 comprises processors that have memory for the storage of software that enables said base station to conduct it's functions).

3. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Willenegger (US 2002/0009061) in view of Baum et al. (US 6,385,462 B1), as applied to Claim 12 above, and further in view of Balachandran et al. (US 6,567,375 B2).

Regarding Claim 14, Willenegger in view of Baum teaches all of the claimed limitations recited in Claim 12. Willenegger in view of Baum does not teach wherein the mapping is changed as a function of some retransmission requests for data blocks being retransmitted over the shared channel.

Balachandran teaches wherein the mapping is changed as a function of some retransmission requests for data blocks being retransmitted over the shared channel (Column 3 lines 48 – 67, Column 6 lines 1 – 13, the MCS changes to compensate for the delay caused by the ARQs).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the ARQ-MCS method taught above in Balachandran in the wireless system of Willenegger in view of Baum for the purpose of creating a dynamic

wireless system that adapts it's communication links to compensate for lost or corrupted data packets.

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond S Dean whose telephone number is 571-272-7877. The examiner can normally be reached on 7:00-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay A Maung can be reached on 571-272-7882. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Raymond S. Dean
April 13, 2005

4/15/05
EDAN ORGAD
PATENT EXAMINER/TELECOMM.